1. (Amended) A radio frequency tag identification system comprising a plurality of tags and a transceiver for sending information to and [simultaneously] receiving information from [a plurality of] the tags [without corruption], wherein each tag is allocated an identification word comprising a predetermined number of bits, the tags comprising means for selectively modulating a signal received from the transceiver, and the transceiver comprising means for sending an interrogation signal comprising a plurality of portions, wherein each portion is associated with a predetermined bit, or bit sequence, of the identification words and is used to simultaneously interrogate the tags [and simultaneously receive information from tags to identify] to identify, in response to modulated signals provided by the tags, the presence of a tag or tags having a given value at the predetermined bit or bit sequence.

4. (Amended) A system as claimed in [any of the preceding claims] claim 1, including in each tag an inductive loop antennae or capacitor plates that will convert the electric power into an electric field to communicate with transponders and provide the power for transponders where this power is not derived internally within the transponder from internal batteries or a light cell.

5. (Amended) A system as claimed in [any of the preceding claims] claim 1, including in each tag an antenna that will convert the signal power from the transceiver into an RF field to communicate with transponders.

6. (Amended) A system as claimed in [any of the preceding claims] claim 1, the transceiver including means for determining the nature of the modulation based on the logical outcome of previous communications with tags to conduct a binary search.

7. (Amended) A system as claimed in [any of the preceding claims] claim 1, the transceiver including means for detecting the modulation impressed on the field by any tag [or plurality of tags in simultaneous communication, without corruption,] comprising a demodulator and an amplifier, wherein the modulation signal is sent to a processor in a logic block and is digitized within a logic processor and evaluated.

8. (Amended) A system as claimed in [any of the preceding claims] claim 1, the tag or tags comprising signal pickup means, a rectifier, a limiter with hysteresis, a clock extractor, a data extractor, a modulator and a logic section.

10. (Amended) A method of detecting the presence of tags within a target area by sending interrogation signals from a transceiver for selective [simultaneous] modulation by [active] tags present in the target area, each tag being allocated an identification word comprising a predetermined number of bits, the method comprising:

sending from a transceiver an interrogation signal comprising a plurality of portions, each portion being associated with a predetermined bit or bit sequence of the identification words and being capable of conveying a given value for the bit or sequence of bits, [each portion being determined by the transceiver in dependence on the modulation response to the previous portion,] wherein [all] tags [in the field] having the value at the predetermined bit or bit sequence are configured to [simultaneously] modulate the signal, the modulation being used to identify the presence of those tags.

11. (Amended) A method as claimed in claim 10, wherein the presence of a tag or tags having an individual identification word is detected by sending an interrogation signal having portions [and] corresponding to all bits of the identification words.

12. (Amended) A method as claimed in claim 10 [or 11, using an adaptive interrogation signal], wherein each portion comprises a first part which is used to [simultaneously] interrogate [all active] the tags to determine whether in a tag or a plurality of tags the associated bit or sequence of bits has a first value, and a second part which is [determined in dependence on the simultaneous response of the active tags in the field] used to interrogate the tags to determine whether the associated bit or sequence of bits has a second value.

13. (Amended) A method as claimed in claim 12, wherein if a portion is used to interrogate the tags to determine whether in a tag or a plurality of tags the associated bit or sequence of bits having the first value, the first part is sent, and if the portion is used to interrogate the tags to determine whether the

associated bit or sequence of bits has a second value, the first and second parts are sent.

14. (Amended) A method as claimed in claim 10 [to 13], wherein a tag not having the value at the predetermined bit or bit sequence ignores further signals until an activation or a wake signal is received.

15. (Amended) A method as claimed in [any one of claims] claim 10 [to 14], wherein data bits of a tag transponder are read from and /or written to by sending further bits after the interrogation signal, wherein tag then deactivates and ignores further signals until an activation signal is received.

16. (Amended) A method as claimed in claim 10, whereby a tag can determine if the reader transceiver has received its attempted communication based on subsequent interrogation signals.

17. (New) A method as claimed in claim 13, wherein only if there is no response to the first part is the second part sent.

18. (New) A method of identifying tags within a target area using a communication signal of a substantially continuous first duration representing a first value or of a substantially continuous extended duration representing a second value, each tag being allocated an identification word comprising a predetermined number of bits, for each bit of the identification word, the method comprising the steps of:

(a) transmitting from a transmitter a first communication signal;

(b) receiving the signal at a tag and, if the identification word of the tag has the value at the respective bit and if the tag is not deactivated, modulating the signal at the tag;

(c) monitoring at the transmitter the signal for modulation and,

(c1) if modulation is detected, recording the presence of at least one tag having the first value at the respective bit, not transmitting the communication signal for the extended duration and proceeding to step (f);

(c2) if no modulation is detected during the first duration, continuing the transmission of the first communication signal for the extended duration;

(d) receiving the signal at a tag during the extended duration and, if the identification word of the tag has the second value at the respective bit and if the tag is not deactivated, modulating the signal at the tag;

(e) monitoring at the transmitter the communication signal for modulation and,

(e1) if modulation is detected during the extended duration, recording the presence of at least one tag having the second value at the respective bit and proceeding to step (g);

(e2) if no modulation is detected during the extended duration, indicating that no tag is present in the target area;

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(f) deactivating tags having the second value at the respective bit which do not receive an extended communication signal; and

(g) if a communication signal for each bit of the identification word has been transmitted, indicating the presence of a tag having an identification word corresponding to the combination of recorded bit values, otherwise proceeding to step (a) for the next bit.

19. (New) A method according to claim 18, further comprising the step of transmitting a reactivation signal from the transmitter, tags having been deactivated in step (f) receiving the signal reactivating themselves to thereby receive further communication signals.

20. (New) A method according to claim 18, whereby a tag having each bit of its identification word transmitted is configured to accept read/write commands, the method further comprising the step (h) of reading from and/or writing to the tag by transmitting signals from the transmitter.

21. (New) A method according to claim 20, further comprising the step of deactivating the tag after the reading and/or writing is completed.

22. (New) A computer-readable memory having series of computer executable instructions for executing the method steps of the method of claim 18.